ICAS 2013 The Ninth International Conference on Autonomic and Autonomous Systems

How Much Autonomous can be the Autonomous Systems? From Dreams to Facts!

- ICAS panel -

Panelist:

Jan-Philipp Steghöfer, Augsburg University, Germany

Klas Nilsson, Dept of Computer Science, Lund University, Sweden

Nikola Serbedzija, Fraunhofer FOKUS, Germany, **Moderator**

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Outline

I. **Jan-Philipp Steghöfer, Augsburg University, Germany**

- *"The frontier of autonomy is not merely a question of technological feasibility but also one of social acceptability"*

II. **Klas Nilsson, Lund University, Sweden**

– *"While the academic/scientific system promotes specialisation, the integration needed to accomplish such systems is thereby overlooked. Businesses either lacks the long-term competences, or have no reasons to contribute to the needed community effort. Hence, the situation is not so good, but I'll outline a couple of suggestions."*

III. **Ambuj Mahanti, IIM Calcutta**

– *"Autonomy of Autonomous Systems Should Be Up To The Level for Human Decision Support"*

IV. **Nikola Serbedzija, Fraunhofer FOKUS, Berlin**

- "Our autonomous systems are not so autonomous!

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Autonomous Systems and their Impact

- To what extent the presents systems are really autonomous?
- How autonomous we want them to be?
- Can we control the level of autonomy?
- What are the application domains that require autonomous systems?
- In which domains we do not want them?

- What is the impact that the autonomous systems can have on individuals and society in genera?
- Are we giving up our own autonomy in favor of technical systems' autonomy?

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The Frontier of Autonomy – A societal problem?

Jan-Philipp Steghöfer

Autonomous Systems for mission-critical applications

Mission-critical system: Power generation and distribution

- Unpredictable Resources
- Subsystems from different vendors
- Interaction over physical energy transport network
- Massive scale

Mission-critical system: Aviation and Automotive

- Increasing number of automatisms
- Failure can cause fatalities
- Reliance on such systems increases

This is my thesis:

> The frontier of autonomy is not merely
> a question of technological feasibility
> but also one of social acceptability.

- Controllability, Transparency, and Accountability: **Trust**
- What are we as a society willing to delegate to autonomous systems?
- What are the opportunity cost of not deploying autonomous systems?
- What are the dangers and potential hazards?
- Do we need a societal discourse and collective consent before pursuing systems that are ever more autonomous?